USSR

CHERKASOV, I.I., et al., Osnovaniya, fundamenty i mekhanika gruntov. No 1, 1970, pp 14-18

2) agloporite gravel with negligible bond and of low specific weight; 3) keramsit gravel, loose material with rounded granules; 4) soft plastic clay of great specific weight, with strong bond and small internal friction angle. The results are presented in graphs and tables. They show that at 6g the angle of rest in agloporite and keramsit gravels decreases while it remains nearly constant in the silica sand. An analysis of motion picture records shows that a certain reduction in angle of rest is related to the aircraft vibration. Thus, it is considered that the variation of gravity has no effect on the angle of rest of loose granular soils. A specially adapted N-700 oscillograph was used for recording experiments in the centrifuge. The deformation aptitude of both type of soils was determined, taking the sag of the pressing stamp under 1kg/cm^2 pressure on the base, as a comparability criterion.

A comparison with theoretical data for carrying power shows that: 1) the gravity variation in accordance with the theory of limit equilibrium, substantially affects the carrying power of sand and weakly affects that of plastic clay; 2) in contrast to the theory of limit equilibrium the carrying power of sand varies a little less than in direct proportion to gravity. The carrying power of clay does not remain constant, but increases slightly with gravity. The causes of these discrepancies are discussed and tentatively explained. Orig. art. has: 6 figures, 7 tables.

1/2 021 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--MOLECULAR WEIGHTS OF POLYBUTADIENES PREPARED WITH THE PI ALLYLNICKEL CHLORIDE DIMER AND TITANIUM TETRACHLORIDE CATALYST SYSTEM

AUTHOR-(04)-PAKURO, N.I., ZABOLOTSKAYA, YE.V., PRAVIKOVA, N.A., MEDVEDEV, S.S.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(2), 361-2 (CHEM)

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--MOLECULAR WEIGHT, POLYBUTADIENE, ORGANONICKEL COMPOUND, CATALYTIC POLYMERIZATION, CHROMATOGRAPHY, SOLUBILITY, INTRINSIC VISCOSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/1578 STEP NO--UR/0020/70/190/002/0361/0362

CIRC ACCESSION NO--AT0100196

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AT0100196

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MOL. WTS. OF THE TITLE POLYBUTADIENES (I) WERE STUDIED BY SEDIMENTATION CHROMATOG. AND VISCOMETRY. THE I WERE DISSOLVED IN A MIXT. OF 84PERCENT PHME AND 16PERCENT ETOH AND PPTD. WITH A MIXT. OF 45PERCENT PHME AND 55PERCENT ETOH. THE SOLY. OF I INCREASED WITH BUTADIENE CONCN. AND DECLINED WITH INCREASING CATALYST CONCN. THE INTRINSIC VISCOSITY OF THE I WAS PROPORTIONAL TO THE BUTADIENE CONCN. AND INVERSELY PROPORTIONAL TO THE CATALYST CONCN.; PRESUMABLY DUE TO THE FORMATION OF "LIVING" POLYMERS. MOL. WT. DISTRIBUTION CURVES HAD 2 MAX., WHICH WERE SHIFTED TO THE RIGHT AT HIGH BUTADIENE CONCNS. THE POLYDISPERSITY (WHICH WAS VERY HIGH) DEPENDED ON REACTION CONDITIONS.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--PREPARATION AND PROPERTIES OF CHLORONITROBIS,PHENANTHROLINE,COBALT,III, SALTS -U-

AUTHOR-(02)-PALADE, D.M., VOLOKH, T.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(3), 885-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COBALT COMPLEX, ORGANIC NITRO COMPOUND, PHENANTHROLINE, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/1329 STEP NO--UR/0078/70/015/003/0885/0886

CIRC ACCESSION NO--AP0138339

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138339

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. (CO(PHEN) SUB2 (NO SUB2)CL)CL.5H SUB2 O (I) (PHEN EQUALS PHENANTHROLINE) WAS OBTAINED WHEN CRYST. CIS,(CO,(NO SUB2) SUB2 (PHEN))NO SUB3 WAS SUSPENDED IN BOILING HCL. IN THE PRESENCE OF KX (X EQUALS I OR BR), (CO(PHEN) SUB2 NO SUB2 X)X.H SUB2 O PPTD. (CO(PHEN) SUB2 CO SUB3) PRIME POSITIVE FORMED WHEN I REACTED WITH NA SUB2 CO SUB3. FACILITY: DONETS. POLITEKH. INST., DONETSK, USSR.

UNCLASSIFIED

USSR

UDC 681.323(088.8)(47)

PALADIN, A. V., IVANOV, V. A., GULYAYEV, V. A., and SIVACHENKO, P. M.,
(Institute of Cybernetics of the Ukrainian SSR Academy of Sciences)

"A Digital Control Automaton with Monitoring"

USSR Author's Certificate No 357563, kl G 06 f 11/08, filed 22 Jun 70, published 13 Dec 72 (from RZh Avtomatika Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct 73, Abstract No 10 B191 P)

Translation: The authors propose a digital control automaton with monitoring, containing memory circuits, connected with hybrid circuits and a flipflop putput unit; logical circuits; and flipflops. The instrument is different in that the efficiency of monitoring is improved by dividing the flipflops of the output unit into small n-space groups, with the zero outputs of the output unit flipflops in each group connected to the inputs of the corresponding multi-input "AND" circuits.

The outputs of all the multi-input "AND" circuits are connected through inverters in pairs to the inputs of the dual input "AND" circuits, the outputs of which are connected to the inputs of "OR" circuits. The outputs of the "OR" circuits are connected to the input of the monitoring flipflop. The zero out-

USSR

UDC: 681.335

TEMNENKO, G. K., PALADIY, M. V., ANDRONATIY, N. R.

"Bridge Scanners for Phototracking Systems"

Elektroenerg. i avtomatika (Electric Power and Automation), vyp. 6, Kishinev, Moldavian SSR Academy of Sciences, 1970, pp 64-74 (from RZh-Avtomatika, Telemekhanika i Vychislitelnaya Tekhnika, No 8, Aug 70, Abstract No 8B133)

Translation: This article contains an investigation of the operating principle and methods of designing a bridge scanner with a high-resistance output used in automatic control systems and in computation devices when reproducing information given in the form of graphs. There are five illustrations and a nine-entry bibliography.

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PALADIN, A. V., et al., USSR Author's Certificate No 357563, Kl G 06 f 11/08, filed 22 Jun 70, published 13 Dec 72

puts of similar types of flipflops in the output unit of all groups are connected to the inputs of small n-input "AND" circuits, connected to the zero inputs of the recording flipflops, the outputs of which are connected to the inputs of a parity checking circuit.

The output of the parity checking circuit and the zero output of the monitoring flipflop are connected to the inputs of the output "AND" circuit connected to the zero input of the final flipflop. One of the outputs of the memory circuits is connected to the input of a correction flipflop, the outputs of which are connected to the inputs of the parity checking circuit. One illustration.

2/2

USSR

UDC 681.3.001:51

ROTAR', S.L., PALADIY, M.V.

"Number System Suitable for a Digital Computer with 'Pictorial' Logic"

V sb. Elektroenerg. i Avtomatika (Electric Power Engineering and Automation -- Collection of Works), vyp. 7, Kishinev, Moldavian SSR Academy of Sciences, 1970, pp 76-82 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 2, Feb 71, Abstract No 2B19)

Translation: The advantages and disadvantages of position and nonposition number systems -- in particular, the construction of nonposition number systems in residual classes -- are investigated. The number systems are evaluated from the point of view of using them in information processing devices based on the principles of "pictorial" logic. There is one illustration, one table, and a 7-entry bibliography.

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USSR

UDC 612.766.2

MEL'NIK, B. Ye., and PALADIY, Ye. S., recommended by the Chair of Human and Animal Physiology, Kishinev State University imeni V. I. Lenin

"Catecholamine Concentration in Adrenal Glands and Various Brain Areas During Hypokinesia and After Injection of Some Neurotropic Agents"

Moscow, Biologicheskiye Nauki, No 11(107), 1972, pp 45-49

Abstract: In rats severely restricted in their motor activity for periods up to 3 weeks, pronounced changes develop in the balance of catecholamines: adrenalin concentration increases while noradrenalin concentration decreases in the adrenal glands, medulla, hypothalamus, hemispheres, and cerebellum. These changes can be diminished or magnified by selected neurotropic drugs. Thus, melipramine (nervous system stimulant, given in doses of 6 mg/kg) increases adrenalin and noradrenalin concentration in all the structures mentioned above, while spasmolytin (N-cholinolytic compound, given in doses of 4 mg/kg) increases adrenalin concentration in the adrenal glands and decreases it in the hemispheres.

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USSR

UDC: None

MALINOVSKIY, B. N., PALAGIN, A. V., and KURGAYEV, A. F.

"Digital-Analog Computer Controlling Device"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 26, 1973, p 169, 386409

Translation: A device containing a passive memory unit connected with a counter-register of arguments, a coincidence circuit, an operational memory unit, and an adder whose output is connected to the inputs of the operational memory unit and the counter-register and whose inputs are connected through an analog-digital converter to an input signal switch and to the outputs of the passive and operational memories is distinguished in that, for the purpose of reducing the required passive memory volume, it contains a counter-register for increments of the arguments, whose inputs are connected with the outputs of the adder and the operational memory unit while the outputs are connected through the coincidence circuit to the controlling input of the analog-digital converter; the output of the adder is connected through the digital-analog converter to one of the inputs of the input signal switch and also through a nonlinear approximation input element in each quantizing section with a capacitor, for example, whose second plate is grounded.

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USSR

MALINOVSKIY, B. N., PALAGIN, A. V. and IVANOV, V. A.

"Microprogram Control"

Upravlyayushchiye Sistemy i Mashiny [Control Systems and Machines], 1973, No 1, pp 59-65 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V640).

Translation: The primary aspects of the theory and practice of microprogramming are studied, a classification is presented of the control devices using the principles of microprogramming, and an approach is suggested to their synthesis. The materials of the article are based on analysis of a number of foreign and domestic sources, and also the results of studies performed by the authors of the article.

Authors' view

1/1

USSR

UDC: None

MALINOVSKIY, B. N., SIVACHENKO, P. M., GULYAYEV, V. A., PALAGIN, A. V., and YAKOVLEV, Yu. S.

"Digital Computing Device"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 9, 1973, p 164, No 368605

Abstract: To improve the reliability of the digital device described in this patent, it is supplied with two logic circuit units each consisting of two logic cells for summation, modulo two and two logic OR cells. The switching cores of the cells direct the signal to recording and memory addresses. Other circuits in the assembly are described in some detail.

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USSR

GULYAYEV, V. A., IVANOV, V. A., PALAGIN, A. V.

"Some Methods of Construction of Systems for Testing Control Automata Using Natural Redundancy"

Sistemy Avtomatich. upr. [Automatic Control Systems -- Collection of Works], Kiev, 1971, pp 58-63, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V495 by O. Belkin).

Translation: Known methods of testing automata are based on the use of the properties of correcting codes. The specifics are studied of the design of systems for testing control automata based on potential elements consisting of register structures. The control circuits are based on the use of natural redundancy. The effectiveness of the use of these systems depends on the natural redundancy, structure of the signals tested, method of representation of signals, etc. In many cases, the use of circuits with natural redundancy is most effective.

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USSR

UDC 681.327

YEGIPKO, V. M., PALAGIN, A. V., and SHOR, A. Z.

"Relay Memory Device"

USSR Author's Certificate No 273273, filed 29 Dec 66, published 24 Aug 70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, 1971, Abstract No 5B336P)

Translation: This invention relates to devices for processing 2-position control signals for digital control machines. Relay memories are known containing an amplifier, separation circuit, coincidence circuits and output relay. The device suggested differs from similar known devices in that in order to simplify the device and increase its speed and reliability, the separation circuit is connected to the coincidence circuit and to an amplifier, the load of which is a relay; the normally closed contact of the relay is connected to one of the inputs of the coincidence circuit.

1/1

USSR

UDC: 621.319.4

ZAYATS, V. K., SIDOROV, G. I., ALEKSANDROV, Yu. A., PALAGIN, V. A.

"An Installation for Testing Capacitors on Audio Frequencies"

Pribory i sistemy avtomatiki. Resp. mezhved. nauch.-tekhn. sb. (Devices and Systems for Automation. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 14, pp 45-48 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V330)

Translation: The authors describe an installation for reliability testing capacitors in the acoustic frequency range. The unit is a low-frequency power oscillator operating into a tank circuit whose capacitive element is a test group of capacitors. Test frequencies are 100, 200, 400, 500, 1,000, 2,500, 5,000 and 10,000 Hz. The maximum capacitance of the group of test capacitors is 10μF at a maximum voltage of 1,400 V on 100 Hz, and 210 V on 10,000 Hz. The installation can be used for long-term tests. Two illustrations, bibliography of two titles. Resumé.

1/1

1/2 013 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--QUANTITATIVE FATTY ACID COMPOSITION OF TECHNICAL FISH OIL -U-

AUTHOR--PALAGINA, I.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., PISHCH. TEKHNOL. 1970, (1), 34-6

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--FOOD TECHNOLOGY, FISH, EDIBLE OIL, CHEMICAL ANALYSIS, FATTY ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/0791 STEP NO--UR/0322/70/000/001/0034/0036

CIRC ACCESSION NO--AT0131385

UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AT0131385

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DARK BROWNOR BLACK OIL PRODUCED BY A FISH CANNERY HAD ACID NO. 27.2, I NO. 135.1, AND SAPON. NO. 185. IT CONTAINED 21 FATTY ACIDS (C SUB10 TO C SUB20) OF WHICH PALMITIC AND OLEIC ACIDS CONSTITUTED 27.1 AND 51.6PERCENT, RESP. THE MOST UNSATD. COMPD. WAS EICOSATETRAENOIC ACID (2.1PERCENT). DURING SAPON., THE DOUBLE BOND IN OCTADECENOIC ACID SHIFTED FROM POSITION 9 TO 6. FACILITY: ASTRAKHAN. TEKH. INST. RYB. PROM. KHOZ., ASTRAKHAN, USSR.

1/2 OC9 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--EFFECT OF OLEIC ACID ON YEASTS -U-

AUTHOR-(04)-ROZMANOVA, N.V., PALAGINA, N.K., CHERNYSH, V.G., STAFEYEVA, I.A.
COUNTRY OF INFO--USSR

SOURCE--PRIKL. BIOKHIM. MIKROBIOL. 1970, 6(3), 303-6

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--OLEIC ACID, YEAST

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0118 STEP NO--UR/0411/70/006/003/0303/0306

CIRC ACCESSION NO--AP0136615

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0135615
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OLEIC ACID ADDED AT 20 KG-TON OR MORE TO BAKERS' YEAST GROWN IN MOLASSES MINERAL MEDIUM SOMEWHAT INCREASED THE YIELD OF BIOMASS AND SIGNIFICANTLY ACCELERATED PROTEOLYSIS DURING STORAGE OF YEAST. IT IS NOT CLEAR WHETHER THIS IS DUE TO DIRECT ACCELERATION OF PROTEOLYSIS BY THE HIGH OLEIC ACID CONCNS. OR TO THE TOXIC ACTION OF OLEIC ACID OXIDES. FACILITY: LENINGRAD RES. INST. FOOD IND., LENINGRAD, USSR.

UNCLASSIFIED

Acc. Nr: AP0037229

Ref. Code: UR 0391

PRIMARY SOURCE: Gigiyena, Truda i Professional'nyye Zabolevaniya, 1970, Nr 2, pp 24-28

CHANGES IN SOME HEMODYNAMIC CHARACTERISTICS OF THE GREATER CIRCULATION IN PATIENTS WITH CHRONIC DUST-INDUCED BRONCHITIS

A. I. Palagushina

Summary

Changes occurring in some hemodynamic indices within the greater circulation (arterial pressure, stroke and minute heart volumes, peripheral resistance) were studied with N. N. Savitsky's mechanocardiograph in 95 patients suffering from chronic dust-induced bronchitis of varying severity. The resultant evidence showed cardiovascular changes in chronic dust-induced bronchitis to set in already at early stages of the disease, being characterized by a rise of the mean dynamic and true systolic pressure, peripheral resistance and varying circualtion volumes. Possible mechanisms governing these changes at different stages of the affection are discussed.

D.M.

REEL/FRAME
19730153

USSR

UDC 613.693

BELYAYEV, N. P., Honored Physician of the RSFSR, Col Med Serv; and PALAMARCHUK, A. I., Lt Col Med Serv

"Study of the Erroneous Behavior of Flight Crews"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 10, 1972, pp 70-72

Translation: A component part of medical service given to fliers is the detection and study of faulty actions of flight crews during flight and their preparation for flight accidents. It is known that this type of work takes two possible directions. One pertains to preventive measures (control over health conditions, work regimes, rest, diet, special equipment, and the like); the other, to the detection and study of faulty activity and reactions to events occurring in flight.

At the present time, the first direction has been adequately studied (A. N. Babiychuk, 1964, 1965; Ye. I. Ivan'kov, 1964; S. D. Baryshnikov, 1970 and others). This, however, cannot be said of the second. Practically all the faulty behavior tolerated in flying and the reasons for the fliers' actions must be studied in retrospect and from indirect indications since the moment at which they occur cannot be observed by the doctor. This factor substantially

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BELYAYEV, N. P., and PALAMARCHUK, A. I., Voyenno-Meditsinskiy Zhurnal, No 10, 1972, pp 70-72

complicates the matter and leads (together with other causes) to the fact that the problem of the preconditions that must be studied by the medical service has not as yet been solved. If the precondition ends in a flight accident, the medical service is obliged to participate in its study regardless of the cause (A. N. Babiychuk, 1964). In cases with fortunate endings, physicians are involved in an analysis of the faulty behavior and their preconditions only when the latter are connected with the "human factor." It seems to us, however, that in the "man-aircraft" system such a one-sided approach should not be permitted. In flights in aircraft at modern speeds, even "innocent" faults in technique or other complications are accompanied by definite neuro-psychic reactions with more or less explicit functional shifts in the various systems of the organism that may cause faulty actions on preconditions for flight accidents (P. V. Buyanov and F. P. Kosmolinskiy, 1967). The forms and expression of these reactions take various forms. Very often, they depend on the state of the organism at the moment of action of the extremal factor, on the individual psychological characteristics of the flier, and on the stage and nature of the flight (at the low-altitude limit, over the ocean, over the Arctic ice, etc.). Thus, the man and the aircraft become so closely interconnected that it is often impossible to determine

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BELYAYEV, N. P., and PALAMARCHUK, A. I., Voyenno-Meditsinskiy Zhurnal, No 10, 1972, pp 70-72

exactly which is responsible for the precondition to an accident. If the division is realized, however, it often turns out to be artificial. Hence, the doctor must take part in the study of all preconditions regardless of their causes.

Flier B., 41 years old, with a flying record of 18 years, trained in a master type of aircraft, healthy. Preflight regime observed. On one day of a long flight, he did not release the left support of the landing gear in descending to the runway. The landing was made on the right part of the undercarriage. On leaving the plane: pale; cold sweat on his face; his hands, lips, and cheeks trembling; speaking with difficulty. His pulse rate was 140 per minute, arterial pressure 170/100 mm Hg (ordinarily 110/70) unstable in the Romberg pose, a positive Rossolimo symptom easily detected. The night after the accident, despite restful and drowsy surroundings, slept little. Condition gradually returned to normal. On the second day, the pallor disappeared; beginning with the third day, he began to sleep; with the fourth, normal pulse; with the fifth, normal blood pressure; with the sixth, disappearance of tremors from the cheeks and fingers in the Romberg pose and no Rossolimo

symptom determinable. Not until the eighth day did his health return to normal. After a vacation and VLE (medical determination of flight fitness) he continued to make successful flights.

This precondition to the flying accident was connected with technique. Its appearance was in no way connected with health and the activity of the flier, but it nevertheless brought on a severe psychic trauma since it occurred at the most serious part of the flight, the landing. The consequence of the described precondition was the explicit stress reaction to an extremal condition (Ye. A. Derevyanko and V. G. Kuznetsov, 1970). Such reactions are often long-lasting. Without dynamic medical supervision and timely hygienic treatment, the course of the convalescence cannot be influenced and it is impossible to determine the onset of the safe period for continued flying work. Permission given to the flier for flight activity if residual phenomena of stress or psychic reactions are present represents a threat to flight safety.

As we know, the basic aim of detecting and studying erratic activity and the preconditions to flight accidents is to determine their causes so that

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BELYAYEV, N. P., and PALAMARCHUK, A. I., Voyenno-Meditsinskiy Zhurnal, No 10, 1972, pp 70-72

preventive measures may be undertaken in time. The causes of one group of erratic actions and preconditions can be detected with relative completeness and reliability directly after their appearance. The other group, because of the vagueness of its causes, is often classified as a miscalculation, negligence, or the like. This sometimes happens because the erratic actions and preconditions are considered outside the context of the previous work of the flier. Starting from that, we have recently begun, in such cases, to take into account the errors tolerated earlier by the flier in question. This has permitted a more precise determination of the essence in a series of erratic actions and changes in the earlier pattern of their causes.

Flier Ch., 35 years old, fully trained in a master aircraft, healthy. Quiet and even-tempered, disciplined. Loves flying. All flights carried out well, missions successfully completed. In the course of two years of flying, he has torn the tires on the wheels of his aircraft four times on landing. The cause, landing with braked wheels. His superiors considered these preconditions the result of carelessness and miscalculation on the part of the flier. Observing the experience of Ch. after each unsuccessful landing, the doctor doubted the

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BELYAYEV, N. P., and PALAMARCHUK, A. I., Voyenno-Meditsinskiy Zhurnal, No 10, 1972, pp 70-72

opinion of the flier's superiors and patiently searched for the cause over a long period of time. It was noticed, one day, when the flier was in training and performing a "landing under difficult conditions," that he incorrectly kept his feet on the pedals. The doctor analyzed his previous landings and found that the tires on the aircraft wheels were destroyed only when the landings were made under difficult conditions (a side wind) and required maximum attention on the part of the pilot. It then also became clear that each time the undercarriage was braked opposite to the direction of the wind (if the wind came from the right, the undercarriage was braked to the left, and vice versa). In subsequent training periods, the most likely mechanism of the erratic action leading to the preconditions was determined. It was essentially this: in landings under difficult conditions, when the whole attention of the pilot is concentrated on maintaining the flight parameters, there was no conscious control of the position of the leg. As a result, this leg, used to select the glide path angle before touchdown, moved ahead of the proper position, pressed the brake pedal, and thus braked the undercarriage.
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BELYAYEV, N. P., and PALAMARCHUK, A. I., Voyenno-Meditsinskiy Zhurnal, No 10, 1972, pp 70-72

When the doctor has a more thorough knowledge of the elements of the pilot's landing techniques, a deep psychophysiological analysis of the facts obtained permits uncovering the most likely causes of the precondition. This example graphically shows the need for aviation physicians to learn the method of fliers in their training equipment. After study of this case, the flier and his superiors were briefed, and were shown the psychophysiological essence of the erractic actions and were given recommendations on their prevention. In more than a year since, Ch. has not repeated his errors although he has made several landings under similar conditions.

On the basis of the experience available to us, we have become convinced that the medical service should participate in studies of all erratic behavior and preconditions to flying accidents regardless of their causes. Every subsequent erratic action or precondition will then have to be studied in the context of previously tolerated actions, in addition to taking into account the state of physical and emotional health of the flier.

7/7

AA0051900

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent, 2-70

244028 DIESEL LOCOMOTIVE BALANCE SPINDLE LUBRICATION METHOD by means of applying lubricant under pressure, differs in that a nipple is first attached to the spindle with a flexible sealed joint, and the lubricant is then applied under pressure. This improves the reliability and speed of lubrication. 22.9.67 as 1187105/25-8 P.M. PALAMARCHUK & V.V. PANCHEV (1.10.69) Bul. 17/ 14.5.69. Class 47e, Int. Cl. F 16n.

1/1

19820383

AA0051888

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent, 2-70

UR 0482

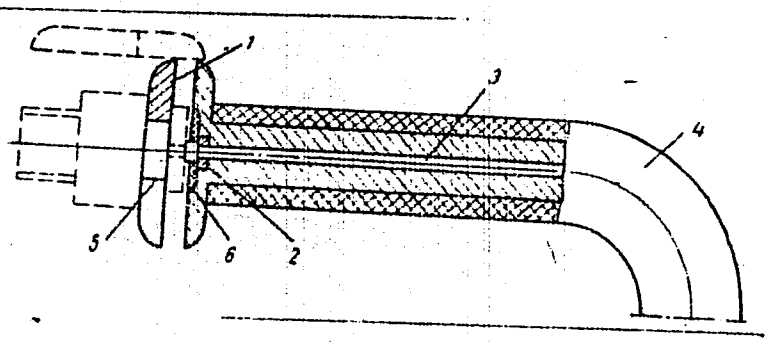
244029 LUBRICATOR FOR DIESEL LOCOMOTIVE BALANCE SPINDLES consisting of a clamp with a handle 1 with a rubber seal 6 in the aperture 2 of channel 3, connected to a lubricant compressor by means of flexible hose 4. The lubricator differs in that the clamp is made horseshoe-shaped with a hinged handle so that it can be held firmly against the balance spindle's aperture 5, compressing seal 6.

22.9.67 as 1187105/25-8 P.M. BALAMARCHUK & V.V. PANCHEV (30.9.69) Bul. 17/14.6.69. Class 47e. Int. Cl. F 16n.

1/2

19820359

AA0051888



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19820360

USSR

UDC 616.083.98:616-099

SEMENOV, I. A., PALAMARCHUK, Ye. S., MUDRITSKIY, V. D., and YAROSHCHUK, G. S., Clinical Hospital imeni October Revolution, Kiev Medical Institute, Kiev

"Emergency Treatment in Acute Poisoning with Organophosphorus Compounds"

Kiev, Vrachebnoye Delo, No 10, Oct 72, pp 131-134

Abstract: Experience acquired in emergency treatment during the past 9 years of 112 persons poisoned with organophosphorus compounds (principally chlorophos) is reviewed. Thirty-nine persons inhaled the poison, while 73 swallowed it. In cases in which the poison was swallowed, the stomach was washed out with water or a 2% Na_2CO_3 solution, whereupon an absorbent (activated carbon or a 25% solution of Na_2SO_4) was administered. In cases of unconsciousness, endotracheal intubation was carried out and the stomach pumped out. In every instance, an 0.1% atropine solution was injected immediately either subcutaneously, intramuscularly, or intravenously (1-2, 2-4, and 3-5 ml in cases of light, medium severe, and acute poisoning, respectively). A 15% solution of dipyroxime was administered in an amount of 1-2 ml in 8 cases of acute poisoning accompanied by deep unconsciousness. In severe cases, an intravenous injection of a 5% glucose solution (250-300 ml) together with vitamin C (100-200 mg), B_1 (60 mg), B_6 (60 mg), PP (30-40 mg), and B_{12} (600-800 gamma) was

USSR

SEMENOV, I. A., et al., Vrachebnoye Delo, No 10, Oct 72, pp 131-134

carried out at the site of the accident. If the condition of the patients did not improve, 250-800 ml physiological NaCl solution or 200-400 ml of a 2-4% $NaHCO_3$ solution were injected in addition to that. The majority of patients were given subcutaneous injections of cordiamine, mezaton, and caffeine and also intramuscular injections of $MgSO_4$ to stimulate cardiac activity. On hospitalization washing out of the stomach was repeated and atropine was administered as required, in the absence of harmful effects produced by it, until improvement of the condition of the patients set in. The total amount of atropine administered was 2-12, 10-20, and > 20 mg in cases of light, medium, and acute poisoning, respectively. Because atropine is dangerous in cases of pronounced hypoxia, patients in this state were given oxygen to inhale. If indicated by the condition of the patients, the following methods of treatment were applied: intramuscular injection of a 25% $MgSO_4$ solution in pronounced mental disturbances; bloodletting and intravenous injection of a 40% glucose solution and a 10% $CaCl_2$ solution in pulmonary edema; intravenous injection of an 0.05% strophanthine solution together with a 40% glucose solution in cases of collapse. Poliglucine, hydrocortisone, ephedrine, and other drugs were also administered. As a part of the detoxification therapy vitamins of the B complex (B_1, B_6, PP, etc) and ascorbic acid were administered together with glucose and plasma substitutes. As resuscitation measures artificial respiration (upon

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USSR

SEMENOV, I. A., et al., Vrachebnoye Delo, No 10, Oct 72, pp 131-134

endotracheal intubation), infusion of poliglucine and other blood extenders, indirect massage of the heart, and defibrillation were applied. Complete recovery following the treatment resulted in 88 cases. Side effects that accompanied recovery comprised pneumonia, acute psychosis, and polyneuritis in 9, 8, and 2 cases, respectively. Five patients died.

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USSR UDC 539.3'

AMIRO, I. YA., POLYANKOV, P. S., PALAMARCHUK, V. G., (Kiev), Institute of Mechanics, Ukrainian SSR

"The Stability of Cylindrical Shells of Imperfect Shape"

Kiev, Prikladnaya Mekhanika, Vol 7, No 8, 1971, pp 9-15

Abstract: The problem of the stability of ribbed cylindrical shells, the initial deflections of which are given in the form of the double trigonometric series, is solved on the basis of an energy method in a geometrically nonlinear formulation with account taken of the discrete position of the supporting ribs. The obtained solution is used for determining the theoretical values of the critical loads of tested ribbed and smooth shells, which are subjected to appropriate measurement before loading. A comparison is made of the theoretical and experimental values of the critical loads, and it was disclosed that the difference for all tested shells does not exceed 17%, which constitutes satisfactory agreement. One figure, two table, three references.

1/1

USSR

UDC: 621.396.67(088.8)

PALAMARCHUK, V. L.

"[redacted] Aperture Corrector"

USSR Author's Certificate No 261453, filed 2 Aug 68, published 22 May 70 (from RZh-Radiotekhnika, No 11, Nov 70, Abstract No 11B76 P)

Translation: The proposed corrector contains a delay line with a variable resistor connected between the delay line housing and the common bus. A distinguishing feature of the patent is the simplicity of the design. One illustration. A. K.

1/1

Metrology, Surveying

USSR

UDC 621.317.759:621.376.58

NIKIFOROV, M. B., PALAMARYUK, G. O., Ryazan'

"Measuring the First Derivative of a Pulse-Frequency Signal"

Novosibirsk, Avtometriya, No 2, 1972, pp 51-54

Abstract: A study was made of the development and investigation of devices for measuring the first derivative of a pulse-frequency signal by the nontime argument also given in the form of the pulse repetition rate. A method of constructing a device for measuring the first derivative of the pulse-frequency signal is presented which eliminates the two deficiencies of the procedure of R. G. Karpov [Tekhnika chastotno-impul'snogo modelirovaniya, Moscow, Mashinostroyeniye Press, 1969] — the restriction imposed on the law of variation of $F_x(t)$ in time and the necessity for measuring the $F_z(t)$ signal obtained using a frequency meter which implies additional dynamic errors and increased expenditures on equipment. The presented device is a pulse-frequency tracking system [G. I. Takhvanov, et al., Vychislitel'naya tekhnika, Trudy MVTU im. Baumana, No 4, Moscow, Mashinostroyeniya Press, 1964] which comprises a reversible counter and a binary multiplier, the feedback circuit of which includes a frequency divider and a device for integrating the pulse-frequency signal with respect to a nontime parameter. The operating conditions of the reversible counters and the subtraction circuit are controlled by commutators.

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USSR

UDC: 681.325.5

PALAMARYUK, G. O., KOSTYASHKIN, L. N., NIKIFOROV, M. B., Ryazan Radio Engineering Institute

"A Pulse-Frequency Multiplier-Divider"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 9, Mar 72, Author's Certificate No 331400, Division G, filed 1 Jul 70, published 7 Feb 72, p 156

Translation: This Author's Certificate introduces a pulse-frequency multiplier-divider which contains a flip-flop, which is connected by its output to one of the coincidence circuits, and a counter whose digital places are connected through code transfer diodes to the input code line. As a distinguishing feature of the patent, the functional possibilities of the device are extended by using a second flip-flop whose set terminal is connected to the output of the first coincidence circuit, while the output of the flip-flop is connected to the pulse inputs of the code carry diodes and to the potential inputs of two other coincidence circuits. The pulse input of one of these coincidence circuits is connected to the set terminal of the second flip-flop, and the output of this coincidence circuit is con-

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PALAMARYUK, G. O. et al., USSR Author's Certificate No 331400

nected to the input of the counter. The outputs of the digital places of the counter are connected through an OR gate to the reset terminal of the first flip-flop.

USSR

UDC: 681.325.3

PALAMARYUK, G. O.

"Frequency-Code Converter"

USSR Authors' Certificate No 251958, Filed 20 May 1968, Published 30 January 1970 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, 1970, Abstract No 10B270P, by V. Kh.)

Translation: A frequency-code converter is suggested which contains a unit for time division of pulses, connected to the output of the generator of the frequency being converted; a standard frequency generator connected to the pulse time division unit and to a converting frequency divider; reading devices, the number of which is equal to the number of bit positions of the output codes; tubes; and OR circuits. The converter differs from known converters in that the inputs of the reading device of the high-order bit position are connected to the standard frequency generator and to the pulse time division unit. The outputs of the recording devices of each bit position are connected to one of the inputs of the tubes of the corresponding bit position. The second inputs of the tubes are connected to the input of the recording and the input of the reading device of these same bit positions respectively, while the outputs are connected through OR circuits in each

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PALAMARYUK, G. O., USSR Authors' Certificate No 251958, Filed 20 May 1968, Published 30 January 1970 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, 1970, Abstract No 10B270P, by V. Kh.)

bit position to one of the inputs of the reading device of the next bit position, the other input of which is connected to the corresponding output of the converting divider. The converter is distinguished by its high operating speed. One illustration.

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USSR

UDC 535.34

SMOLINSKIY, Ye. S., PALAMARYUK, V. Ye., DIMITRASHCHUK, A. T., and GUMINETSKIY, S. G.

"Method of Investigation of Absorption Spectra of Colloidal Solutions Under Deep Mode Conditions"

Minsk, Zhurnal Prikladnoy Spektroskopii, Vol 14, No 3, Mar 7I, pp 502-507

Abstract: The design and operating principle of a device for study of the absorption spectra of colloidal solutions under deep mode conditions are described. The solutions are illuminated from above, and the light receivers consist of spherical and plamar ground glass elements. The method of measuring the index of absorption α of colloidal solutions using these receivers is described. Results from determination of α for scattering media with various concentrations of glass powder are presented.

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USSR

UDC 582.263:581.1:08

PALAMAR-MORDVINTSEVA, G. M. and STUPINA, V. V., Institute of Botany, Academy of Sciences, Ukrainian SSR

"Effect of the Supernatant Fluid of an Ankistrodesmus braunii Brunnth Culture on the Development of Some Wild Species of Algae in Effluent from the Chernigov Chemical Fiber Plant"

Kiev, Ukrains'kiy Botanichniy Zhurnal, No 3, 1972, pp 294-299

Abstract: Laboratory experiments with Ankistrodesmus braunii Brunnth showed that in the course of its vital processes the alga releases physiologically active substances that can stimulate or inhibit the growth of other algae, e.g., some wild species of Chlorella, Scenedesmus, Pinnularia, and Chlamydomonas. Whether the supernatant fluid of an A. braunii culture stimulated or inhibited wild algae depended on the size of the dose used and on the conditions under which it was grown (age of the culture and nutrients used).

1/1

1/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--SOLUBILITY OF ANHYDROUS MOLYBDENUM TRICXIDE IN AQUEOUS SULFURIC ACID SOLUTION -U-

AUTHOR-(03)-IRKOV, F.YA., PALANT, A.A., REZNICHENKO, V.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(5), 1354-8

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SOLUBILITY, MOLYBDENUM OXIDE, SULFURIC ACID, SOLUTION CONCENTRATION, HEAT OF REACTION, TEMPERATURE DEPENDENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1416 STEP NO--UR/0078/70/015/005/1354/1358

CIRC ACCESSION NO--AP0135070

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0135090

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOLY. OF MOO SUB3 DEPENDS ON H SUB2 SO SUB4 CONCN. IN AQ. SOLN. AND SHOWS A MAX. AT 18-20 WT. PERCENT H SUB2 SO SUB4. WITH INCREASING TEMP., THE SOLY. DECREASES. A 1:1 COMPLEX OF MOO SUB3 WITH H SUB2 SO SUB4 FORMS IN THIS SYSTEM. DELTA HDEGREES OF THE REACTION OF MOO SUB3 WITH H SUB2 SO SUB4 IS MINUS 6.3 KCAL-MOLE.

UNCLASSIFIED

USSR

UDC 547:754:04:541:138:2.547.759.3:543.253

PALANT, I. N., VAYNSHTEYN, Yu. I., KRASNOKUTSKAYA, D. M., and YAKHONTOV, L. N., All-Union Scientific Research Institute of Chemical Reagents and Chemicals of High Purity, Moscow, and All-Union Scientific Research Chemico-Pharmaceutical Institute imeni S. Ordzhonikidze, Moscow

"Derivatives of Azaindoles. XLII. Polarographic Oxidation and Dehydrogenation of 5-Azaindolines and 5,7-Diazaindolines"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 6, Jun 73, pp 773-776

Abstract: Polarographic oxidation of 5-azaindolines, 7-azaindolines, and 5,7-diazaindolines (22 compounds listed in a table) was carried out on a rotating Pt anode, using the method described by T. K. Adler and A. Albert, J. Chem. Soc., 1794, 1960. The relative facility of oxidation corresponded to that of dehydrogenation by the action of quinones. $E_{1/2}$ increased on transition from 7-azaindolines to 5-azaindolines and further to 5,7-diazaindolines. The effect of substituents could be well described by cross-correlation equations (cf. Vaynshteyn et al, Khim. Geterotsikl. Soyed., 1106, 1969). Deviations from the correlation were associated with the lactam-lactim tautomeric equilibrium of 6-hydroxy 5- and 7-azaindolines.

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USSR

UDC 547.759.3

YAKHONTOV, L. N., KRASNOKUTSKAYA, D. M., AKALAYEV, A. N., PALANT, I. N. and VAINSHTEIN, YU. I., All Union Scientific Chemical-Pharmaceutical Research Institute Imeni S. Ordzhonikidze, Moscow

"Azaindole Derivatives. XXXIX. Reactions of 6-Chloro-7-Azaindolines with Amines"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 6, Jun 71, pp 789-794

Abstract: During the reactions of various primary and secondary amines with 6-chloro-7-azaindolines the normal nucleophilic substitution is accompanied by oxidation-reduction processes yielding concurrently dehalogenated products of 7-azaindolines and oxidation compounds -- 6-amino-7-azaindole derivatives. The ratio of the nucleophilic substitution products to the compounds obtained from the oxidation-reduction reaction depends principally on the nucleophilicity of the attacking amine. By selecting properly the amine component the reaction may be directed toward nucleophilic substitution, or toward the oxidation-reduction route. For example, when 1-phenyl-4-methyl-6-chloro-7-azaindoline reacts with basic amines such as pyrrolidine, piperidine, the normal products - the derivatives of 6-amino-7-azaindoline -- are formed in 90% yield. When morpholine is used instead, the normal product drops to a 64% yield, and with

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USSR

YAKHONTOV, L. N., et al., Khimiya Geterotsiklicheskikh Soyedineniy, No 6, Jun 71, pp 789-794

N-methylpiperazine it drops to 56%. In the meantime the dehalogenated products go from 1% to 7-8% to 28% respectively.

1/2 008 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--MECHANISM OF THE THERMAL DECOMPOSITION OF TERTOUTYL HYDROPEROXIDE TO ESTERS -U-

AUTHOR-(03)-OGIBIN, YU.N., PALANUYER, I.A., NIKISHIN, G.I.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 592-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--REACTION DINETICS, THERMAL DECOMPOSITON, HYDROPEROXIDE, CARBOXYLIC ACID ESTER, MALONIC ESTER, CHLOROBENZENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0732 STEP NO--UR/0062/70/000/003/0592/0596

CIRC ACCESSION NO--AP0124402

UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0124402

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC CURVES WERE SHOWN FOR THE TITLE REACTION IN MEDIA SELECTED FROM: PHCL, ME CAPROATE, DI ET MALONATE AND THEIR COMBINATIONS. THE REACTION RUN AT 130DEGREES PROCEEDED BY ACYLATION OF THE PEROXIDE BY THE ESTER PRESENT AND HOMOLYSIS OF THE RESULTING PERESTER ME SUB3 COOCOC SUB5 H SUB11, WHICH WAS PREPD. FROM CAPROYL CHLORIDE AND RO SUB2 H, IN 42PERCENT YIELD; B SUB0.05 29DEGREES, N PRIME20 SUBD 1.4210, D PIME20 0.9075. IN ME CAPROATE ME SUB3 COOH GAVE RATE CONSTS. OF DECOMPN. THAT CHANGED FROM THE INITIAL VALUE OF 4.25 TIMES 10 PRIME NEGATIVE5 SEC PRIME NEGATIVE1 TO 1.9 TIMES 10 PRIME NEGATIVE4 SEC PRIME NEGATIVE1 AFTER SOME 30 MIN OF REACTION; IN DI ET MALONATE THE RATE CONST. WAS 6 TIME 10 PRIME NEGATIVE4 SEC PRIME NEGATIVE1 AND LACKED A PERIOD OF AUTOACCELERATION, PROBABLY OWING TO RAPID ESTABLISHMENT OF THE STATIONARY CONCN. OF THE PERESTER. FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

UNCLASSIFIED

1/2 032 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--CYTOCHEMISTRY OF SUCCINATE OXIDOREDUCTASE IN SOME SECTIONS OF MICE BRAINS DURING TOTAL X RAY IRRADIATION -U-

AUTHOR-(02)-PALASCHENKO, L.D., POTEMKINA, S.D.

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1970, 10(1), 28-31

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--X RAY IRRADIATION BIOLOGIC EFFECT, BRAIN, ENZYME ACTIVITY, NEURON, RADIATION SENSITIVITY, RADIATION SICKNESS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/0450 STEP NO--UR/0205/70/010/001/0028/0031

CIRC ACCESSION NO--AP0121124

UNCLASSIFIED

2/2 032 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121124

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CYTOCHEMISTRY OF SUCCINATE OXIDOREDUCTASE WAS STUDIED IN MICE BRAINS 3 HR AND 3, 6 AND 12 DAYS AFTER WHOLE BODY X IRRADN. WITH A DOSE OF 600 R. MEDULLA OBLONGATA POSSESSED THE HIGHEST RADIOSENSITIVITY; AN INITIAL ACTIVATION AND THEN SUBSEQUENT INHIBITION OF SUCCINATE OXIDOREDUCTASE ACTIVITY (BY A FACTOR OF 2.7 TWELVE DAYS AFTER IRRADN.) WAS OBSD. NEURONS OF THE CEREBELLUM SHOWED THE LOWEST RADIOSENSITIVITY. CHANGES OF SUCCINATE OXIDOREDUCTASE ACTIVITY OBSD. AT VARIOUS TIME INTERVALS AFTER THE IRRADN. CORRESPONDED TO THE FEATURES OF RADIATION SICKNESS; AN INHIBITION OF THE ACTIVITY OCCURRED DURING THE LATENT PERIOD OF RADIATION SICKNESS.

FACILITY: VLADIVOSTOK. MED. INST., VLADIVOSTOK, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--NATURE OF THE 475DEGREES BRITTLENESS OF HIGH CHROMIUM STEELS -U-

AUTHOR-(04)-SHULGA, N.G., ZAMORA, M.F., PALASH, V.N., ZIMA, YU.V.

COUNTRY OF INFO--USSR

SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (2), 51-3

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--HIGH CHROMIUM STEEL, METAL BRITTLENESS, ALLOY DESIGNATION/(U)KH17 HIGH CHROMIUM STEEL, (U)KH25 HIGH CHROMIUM STEEL, (U)KH28 HIGH CHROMIUM STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1289 STEP NO--UR/0129/70/000/002/0051/0053

CIRC ACCESSION NO--AP0106070

UNCLASSIFIED

2/2 013 UNCLASSIFIED

CIRC ACCESSION NO--AP0106070 PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INVESTIGATION CONFIRMED THA PRESENCE OF 2 TYPES OF PHENOMENA LEADING TO THE 475DEGREES BRITTLENESS IN HIGH CR STEELS KH17 AND KH28 WHICH WAS EARLIER OBSERVED IN KH25. (1) WHILE HOLDING AT BRITTLENESS TEMP. UP TO 1 HR, FORMATION OF AN ORDERED ZONE TAKES PLACE WHICH LOWERS PLASTICITY, MAINLY IN THE LIMITS OF THE CHROME FERRITE SECTION. (2) WITH FURTHER HOLDING TIME, AN INTRAPHASE DECOMPN. OF FERRITE TO 2 SOL. SOLNS. ALL ALONG THE GRAINS WAS OBSD. WHICH WERE DIFFERENT IN COMPN. FROM CR. THE LARGEST EFFECT ON EMBRITTLEMENT WAS HOMOGENEITY OF THE SOL. SOLN. WITH INCREASE IN INHOMOGENEITY OF THE DISTRIBUTION OF CR, THE EMBRITTLEMENT PROCEEDS FOLLOWING ONLY SEVERAL MIN OF HEATING AT 450-520DEGREES.

UNCLASSIFIED

USSR

UDC 669.15

ZAMORA, M. F., and PALASH, V. N., L'vov Polytechnical Institute

"Change in the Thermoelectric and Galvanomagnetic Properties of High-Chromium Steels at Brittleness of 475° C"

Kiev, Metallofizika, No 32, 1970, pp 95-97

Translation: On the basis of the experiments conducted this study describes the change in the microthermoelectromotive force of high-chromium ferrite, and the galvanomagnetic effect $\frac{\Delta\rho}{\rho}$ and the Curie point of 17Kh and 25Kh steel as a function of temperature and time of embrittlement at temperatures of 400-540°C. It is shown that the galvanomagnetic effect is more sensitive to the first embrittlement period, which corresponds to a partial order of ferrite primarily in the border grain zones. The change in the microthermoelectromotive force and exchange energy characterized by the Curie point reflects the kinetics of the passage of the second embrittlement period. A considerable effect of intraphase transformations during the aging of high-chromium steels on their electronic properties is noted. Bibliography: 10 entries, 2 illustrations, 1 table.

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USSR

UDC 621.316.722.1 (088.8)

PALASHOV, V.V., SHAPIRO, S.V.

"Voltage Regulator"

USSR Author's Certificate No 275168, filed 9 Mar 67, published 12 Oct 70 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 43697P)

Translation: In order to increase the speed of response and the reliability of a regulator, the final control element consists of two networks connected in anti-parallel which contain a thyristor and a saturation choke coil. The thyristors are shunted by semiconductor diodes and a capacitor is connected between their outlets connected with the choke coils, which eliminates untimely closing of the thyristors resulting from the effect of the residual inductance during saturation of the choke coil. The control unit used for control of the turn-on phase of the thyristor contains a combined phase-shifting ladder network with a shaper of rectangular pulses. 1 ill. A.T.

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Acc. Nr: AP0054926 Abstracting Service: 6-70 Ref. Code: 4R0181
INTERNAT. AEROSPACE ABST.

A70-25381 # Intermediary graphitization stages in thin films of a condensed carbon (Promezhutochnye stadii grafitizatsii v tonkikh plenkakh kondensirovannogo ugleroda). B. T. Boiko, L. S. Palatnik, A. S. Derevianchenko, and A. A. Nechitailo (Khar'kovskii Politekhnicheskii Institut, Kharkov, Ukrainian SSR). *Fizika Tverdogo Tela*, vol. 12, Feb. 1970, p. 492-498. 24 refs. In Russian.

Electron diffraction study of carbon films obtained by using an electron beam technique involving condensation in vacuum on an unheated substrate. It is found that the film consists of aggregates of oriented and nonoriented coherent scattering regions bonded by disoriented carbon aggregates. Both oriented and nonoriented coherent scattering regions are formed by parallel packed graphite lattices. Large interlattice distances in these blocks indicate on characteristic to graphite impairments in the mutual orientations of the parallel lattices. This impairment is due to the insertion of carbon atoms between the lattices and formation of disordered, strongly supersaturated solid solutions.

Z.W.

REEL/FRAME
19840130

CK 18

USSR

UDC 548.621'66:539.238

PALATNIK, L. S., BOGATOV, P. N., MARINCHEVA, V. Ye., TOVSTONOG, V. A., and SHVYDKIY, I. D., Khar'kov Polytechnical Institute imeni V. I. Lenin

"Preparation and Properties of Condensed AlSb Films"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, Vol 6, No 6, Jun 70, pp 1086-1089

Abstract: Results are reported on an investigation of the electrical properties of condensed AlSb films (thickness, 5-30 μ) produced by a method previously described by one of the authors (Palatnik). AV000 aluminum and dy0 antimony were used for the preparation of AlSb. An analysis of the condensates shows that when the method of synchronous condensation of the elements of the compound is used, films prepared at temperatures $\geqslant 500^\circ$ C have semiconductor properties and the compound produced is close to the stoichiometric.

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1/2 031 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--DISLOCATION DOMAIN STRUCTURE OF POSTCRITICAL PERMALLOY FILMS -U-

AUTHOR-(02)-PALATNIK, L.S., LUKASHENKO, L.I.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA METALLOV I METALLOVEDENIE, VOL. 29, APR. 1970, P. 782-787

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--PERMALLOY, BIBLIOGRAPHY, CRYSTAL DISLOCATION, MAGNETIC PROPERTY, MAGNETIC FIELD, METAL FILM, MAGNETIC DOMAIN STRUCTURE, METALLURGIC RESEARCH FACILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0392 STEP NO--UR/0126/70/029/000/0782/0787

CIRC ACCESSION NO--AP0126147

UNCLASSIFIED

2/2 031 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0126147
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE MECHANISM OF RESTRUCTING OF THE DOMAIN STRUCTURE OF "POSTCRITICAL" PERMALLOY FILMS UNDER THE ACTION OF AN ALTERNATING MAGNETIC FIELD APPLIED PARALLEL TO THE BAND DOMAINS. IT IS SHOWN THAT A DECREASE IN THE DOMAIN WIDTH WITH AN INCREASE IN FIELD AMPLITUDE OCCURS AS A RESULT OF MOVEMENT OF DISRUPTIONS OF THE STRUCTURAL REGULARITY CALLED MAGNETIC DISLOCATIONS. AN EXPLANATION OF THE OBSERVED PATTERNS OF CHANGE IN THE DOMAIN WIDTH IS GIVEN FROM THE STANDPOINT OF EXISTING FILM MODELS. FACILITY: KHAR'KOVSKII POLITEKHNICHESKII INSTITUT, KHARKOV, UKRAINIAN SSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--COALESCENCE IN EPITAXIAL FILMS OF LEAD CHALCOGENIDES -U-

AUTHOR-(03)-PALATNIK, L.S., SOROKIN, V.K., ZOZULYA, L.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 441-6

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--CRYSTAL LATTICE DEFECT, CRYSTALLIZATION, LEAD COMPOUND, REACTION MECHANISM, ANISOTROPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1899 STEP NO--UR/0363/70/006/003/0441/0446

CIRC ACCESSION NO--AP0115718

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0115718

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRESENT WORK CONSTITUTES A SYSTEMATIC INVESTIGATION OF THE COALESCENCE IN THIN EPITAXIAL FILMS OF PB CHALCOGENIDES. THREE FORMS OF COALESCENCE WERE ESTABLISHED: LIQ. LIKE CONFLUENCE WITH THE BREAK AWAY OF PARTICLES FROM THE SUBSTRATE; CONFLUENCE WITH RECRYSTN.; AND SINTERING, NOT AFFECTING THE SHAPE, ARRANGEMENT, AND DISORIENTATION OF THE PARTICLES. THE SHAPE OF THE CONFLUENCE OF THE PARTICLES ATTESTS TO THE SIGNIFICANT ROLE OF SURFACE DIFFUSION AND SELF DIFFUSION. THE PROPOSITION IS EXPOUNDED ON THAT THE EXPTL. OBSD. ANISOTROPY IN THE SINTERING IS PRODUCED BY THE HIGHER RATE OF MASS TRANSFER DURING SURFACE DIFFUSION ALONG THE STEPS OF THE SUBSTRATE AND THE STEPS AT THE SURFACE OF THE PARTICLES. THE FORMER CAUSE CONFLUENCE ALONG THE STEPS OF THE SUBSTRATE, AND THE LATTER IN THE (110) DIRECTION BETWEEN THE ANGLES OF RECTANGULAR ISLETS. THE DISLOCATION MODEL OF DIRECTED MASS TRANSFER, CAUSING THE INTENSE COALESCENCE, SINTERING, AND SEALING OF THE METASTABLE CANALS, IS EXAMD. IT IS SHOWN THAT EACH OF THE ABOVE EXAMD. COALESCENCE MECHANISMS BRINGS FORTH ITS OWN SP. DEFECT STRUCTURE. FACILITY: KHAR'KOV. POLITEKH, INST. IM. LENINA, KHARKOV, USSR.

UNCLASSIFIED

1/3 021 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--DIRECTED GROWTH OF THIN SULFUR FILMS -U-

AUTHOR-(03)-PALATNIK, L.S., NABOKA, M.N., NECHITAILO, A.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 409-13

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--SULFUR, POLYSTYRENE RESIN, CRYSTAL STRUCTURE, MECHANICAL STRENGTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1928 STEP NO--UR/0363/70/006/003/0409/0413

CIRC ACCESSION NO--AP0115741

UNCLASSIFIED

2/3 021 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0115741

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS PROPOSED FOR THE PREPN. OF THIN CONDENSED COMPACT THIN FILMS OF S ON A POLYSTYRENE SUBSTRATE WITH A SEED ENHANCING HIGH MECH. STRENGTH OF THE FILM AT ROOM TEMP. OF CONDENSATION. THE INFLUENCE OF THE CONCN. OF THE S SEED IN THE POLYSTYRENE FILM SUBSTRATE ON THE FORMATION OF THE STRUCTURE OF CONDENSED S THIN FILMS WAS STUDIED. THE MICROSTRUCTURE OF THE VACUUM CONDENSATE APPLIED AT ROOM TEMP. TO THE POLYSTYRENE SUBSTRATE WITH THE SEED TURNED WAS VERY SENSITIVE TO THE INITIAL CONCN. OF THE SEED. BELOW A CERTAIN CRIT. CONCN. OF THE SEED (C SUBK PRIMES IS SMALLER THAN 15.8), THE MICROSTRUCTURE OF THE VACUUM CONDENSATE NO LONGER DEPENDS ON THE C PRIMES. AT C PRIMES IS SMALLER THAN C SUBK PRIMES THE S CONDENSATE HAS A GLOBULAR STRUCTURE. VACUUM CONDENSATES OF S PREPD. ON A POLYSTYRENE SUBSTRATE AT C PRIMES EQUALS 15.8-28.5 HAVE A COARSE CRYST. STRUCTURE. THE CRYST. SEEDS AT C PRIMES IS SMALLER THAN 15.8 ARE FLAT SINGLE CRYSTALS. THE THIN FILM PREPD. BY VACUUM DEPOSITION ON A THIN SUBSTRATE CAN BE RELATIVELY EASILY REMOVED FROM THE GLASS PLATELET BY IMMERSING IT IN DISTD. WATER. THE OPTIMUM CONCN. OF S IN THE POLYSTYRENE FILM SUBSTRATE WAS C PRIMES EQUALS 15.8PERCENT, AT WHICH CRYST. SEEDS MEASURING IS SIMILIAR TO 0.1 MU IN SIZE EMERGE, AND WHICH HAVE A STRONG ORIENTATION EFFECT ON THE GROWTH OF S THIN FILMS DURING VACUUM CONDENSATION. IN CONTRAST TO SIMILAR FILMS PREPD. BY OTHER METHODS, THE FILMS PREPD. BY THE DIRECTED GROWTH METHOD DESCRIBED HEREIN HAVE GOOD MECH. STRENGTH RELATIVE TO VIBRATION BOTH ALONG THE FILM AND IN THE PERPENDICULAR DIRECTION.

UNCLASSIFIED

3/3 021 UNCLASSIFIED PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0115741

ABSTRACT/EXTRACT--NO CRACKS OR FISSURES WERE OBSD. IN SUCH THIN FILMS AT GIVEN VIBRATION FREQUENCIES AND LOADS. FACILITY: KHAR'KOV, POLITEKH. INST. IM. LENINA, KHARKOV, USSR.

USSR

UDC: 546.22:539.238

PALATNIK, L.S., NABORKA, M.N., NECHITAYLO, A.A., Kharkov Polytechnical Institute imeni V.I. Lenin, Kharkov, Ministry of Higher and Secondary Specialized Education USSR

"The Directed Growth of Thin Sulfur Films"

Moscow, Neorganicheskiye Materialy, Vol 6, No 3, 1970, pp 409-413

Abstract: A method is suggested for reducing the critical thickness and condensing of thin sulfur films from vapor directly to crystalline film at room temperature. The substrates consisted of thin polystyrene films containing sulfur seeds. The microstructure of the vacuum condensate applied to the polystyrene seeded substrate was found to be highly sensitive to the initial seed concentration. The film, at thicknesses up to 20μ, produced by concentration on a thin (about 0.1μ) strengthening and orienting substrate was comparatively easily removed from the glass plates by submersion in distilled water. The method provides high mechanical film strength with room temperature condensation. The optimal sulfur concentration in the polystyrene substrate layer was found to be 15.8%, which produced seed crystals about 0.1 μ in diameter

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Moscow, Neorganicheskiye Materialy, Vol 6, No 3, 1970, pp 409-413

having strong orienting influence on the growth of the sulfur films during the course of vacuum condensation. Consequently, the mechanism of formation of the vacuum condensate can be influenced by changing the concentration of seeds in the polystyrene substrate, as by changing the substrate temperature. Introduction of the seeds to the substrate causes an effect equivalent to decreasing the substrate temperature by several dozens of degrees. Vibration tests at 3 to 12 g (gravity force) showed the films to be comparatively strong in resistance to vibration both along the film and perpendicular to it. No ruptures or cracks were observed in the film after the test.

1/2 024 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--PRINCIPLES OF THE GROWTH OF THIN SINGLE CRYSTAL LEAD CHALCOGENIDE FILMS -U-

AUTHOR-(03)-PALATNIK, L.S., SOROKIN, V.K., ZOZULYA, L.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2), 224-9

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--LEAD SULFIDE, SINGLE CRYSTAL, SELENIUM COMPOUND, TELLURIUM COMPOUND, SODIUM CHLORIDE, POTASSIUM CHLORIDE, SEMICONDUCTOR MATERIAL, CRYSTAL DEFORMATION, CRYSTAL STRUCTURE, CONDENSATION REACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0557 STEP NO--UR/0363/70/006/002/0224/0229

CIRC ACCESSION NO--AP0105542

UNCLASSIFIED

2/2 024 UNCLASSIFIED

CIRC ACCESSION NO--AP0105542 PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EARLY STAGE OF GROWTH OF SINGLE CRYSTAL THIN FILMS OF THE PB CHALCOGENIDES WAS STUDIED. PBS, PBSE, AND PBTE WERE CONDENSED ON NACL AND KCL SINGLE CRYSTALS UNDER VACUUM AT SUBSTRATE TEMPS. OF 90-200DEGREES AND CONDENSATION RATES OF 0.7-13 ANGSTROM-SEC. A NEW TYPE OF COMPACT EPITAXIAL FILM WAS FOUND, AT THE EARLY STAGE OF WHICH THERE APPEARS A BIDISPERSED STRUCTURE CONSISTING OF SMALL CRYSTALLITES WITH AN EQUIL. FACETING AND RATHER THIN ISLETS WITH ROUGH EDGES. THE SHAPE OF THE CONDENSATE PARTICLES IS DETD. BY THE RATIO BETWEEN THE RATE OF FACETING AND THE GROWTH RATE IN THE PLANE OF THE SUBSTRATE. THE APPEARANCE OF THE BIDISPERSED STRUCTURE IS EXPLAINED BY THE SPEEDING UP OF THE GROWTH OF THE ISLETS WITH ROUGH EDGES AND A SLOWING DOWN FOR PARTICLES WITH EQUIL. FACETING. DURING THE FORMATION OF THE COMPACT EPITAXIAL FILMS HAVING A BIDISPERSED STRUCTURE, ELASTIC DEFORMATION ARISES, WHICH CAN SIGNIFICANTLY INCREASE THE SCATTERING OF THE CURRENT CARRIERS IN THE SEMICONDUCTOR SINGLE CRYSTAL FILM.

UNCLASSIFIED

1/3 028 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EFFECT OF CONDENSATION CONDITIONS ON THE DIELECTRIC PROPERTIES AND STRUCTURE OF SIO THIN FILMS -U-

AUTHOR-(03)-PALATNIK, L.S., TARTAKOVSKAYA, I.KH., KOTELNIKOVA, S.O.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2), 219-23

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--SILICON OXIDE, SILICON FILM, VAPOR CONDENSATION, THIN FILM CAPACITOR, ELECTRIC CAPACITANCE, DIELECTRIC LOSS, DIELECTRIC CONSTANT, REACTION KINETICS, ELECTRON DIFFRACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/2007 STEP NO--UR/0363/70/006/002/0219/0223

CIRC ACCESSION NO--AP0105080

UNCLASSIFIED

2/3 028 UNCLASSIFIED

CIRC ACCESSION NO--AP0105080 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INFLUENCE OF THE CONDENSATION RATE AND THE THICKNESS OF THE DIELEC. LAYER ON CAPACITANCE, DIELEC. CONST., DIELEC. LOSSES, AND BREAKDOWN VOLTAGE OF SIO BASED THIN FILM CAPACITORS WAS STUDIED. AT LOW CONDENSATION RATES, PARTIAL OXIDN. OF SIO TAKES PLACE. INCREASING THE CONDENSATION RATE INCREASES THE HETEROGENEITY OF THE THIN FILMS RELATIVE TO THEIR COMPN. BY USING MICRODIFFRACTION ANAL., THE PRESENCE OF 2 HIGHLY DISPERSED PHASES, CRYST. OR AMORPHOUS SI AND AMORPHOUS SIO SUB2, WAS OBSD. IN SIO THIN FILMS. THE THIN FILM CAPACITORS WERE PREPD. BY THE ALTERNATING OPERATIONS TECHNIQUE; I.E., EACH LAYER WAS APPLIED IN A SEP. VACUUM APP. THE CONSTRUCTION OF THE VAPORIZER WAS ANALOGOUS. ALSO PERFORMED WERE STRUCTURAL INVESTIGATIONS OF THE THIN FILMS AS DEPENDENT ON THE CONDENSATION RATE. A MARKED DECREASE IN THE DIAM. OF THE HALO AND A CORRESPONDING INCREASE IN THE INTERPLANAR SPACING WERE OBSD. FOR FILMS WITH LOW CONDENSATION RATES. THIS INCREASE IN THE INTERPLANAR SPACING FOR THIN FILMS PREPD. AT LOW CONDENSATION RATES IS PROBABLY ASSOCD. WITH THEIR MORE INTENSIVE OXIDN. AS COMPARED TO THE THIN FILMS OBTAINED AT HIGHER CONDENSATION RATES. A CORRESPONDENCE WAS OBSD. BETWEEN THE RESULTS OF THE ELECTRON DIFFRACTION AND THE MICROPHOTOMETRIC INVESTIGATIONS OF THE THIN FILMS AS A FUNCTION OF THE CONDENSATION RATE. INCREASING THE CONDENSATION RATE ALSO RESULTS IN THE FILM BECOMING VERY NONUNIFORM. A LARGE NO. OF PARTICLES, BANDS, AND ARBORESCENT FORMATIONS APPEARED. THE LATTER ARE PROBABLY SOME SORT OF A CONDENSATION STAGE OF AMORPHOUS SIO, WITH ITS DECOMPN. GOING ON AT THE SAME TIME.

UNCLASSIFIED

3/3 028 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0105080
ABSTRACT/EXTRACT--FACILITY: KHAR'KOV. POLITEKH. INST. IM. LENINA, KHARKOV, USSR.

UNCLASSIFIED

USSR

UDC 669.1:539.216.2:548.4

PALATNIK, L. S., and LUKASHENKO, L. I., Kharkov Polytechnical Institute imeni V. I. Lenin

"'Dislocation' Domain Structure of 'Supercritical' Permalloy Films"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 29, No 4, Apr 70, pp 782-787

Abstract: A study was made of the mechanism of domain rearrangement in the structure of supercritical condensates in a variable magnetic field applied parallel to the domains. Optimum conditions were chosen in preparing the samples which would yield a supercritical state in films of significant thickness (up to tens of microns), a substrate temperature of 300°C, a condensation rate of 10 Å/sec, and a residual chamber pressure of 10^{-4} torr. The composition of the vaporized material was 83% Ni and 17% Fe; the thickness of the condensed layer was 10-20 microns. The films were removed from the substrate in such a manner as not to disturb the magnetic properties due to macrostresses. A magnetic field strength of 200 oe was used and directed perpendicular to the powdered samples. The magnetic (polarity) reversal frequency was 50 Hz.

A domain structure was formed by slowly decreasing the magnitude of H (initially H was greater than saturation--H_s). The domain walls formed zigzag lines, with any particular wall having the appearance of an edge dislocation which

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PALATNIK, L. S., and LUKASHENKO, L. I., Fizika Metallov i Metallovedeniye, Vol 29, No 4, Apr 70, pp 782-787

the authors preferred to call magnetic dislocations (MD). The MD forms when a domain wall is broken, and in this sense it is similar to an edge dislocation. Movement of MD proceeds by the effect of the magnetic field, and this movement was traced as the magnetic field intensity was increased. At $H = 0.1\ H_s$ the movement of MD was parallel to the domains. At $H = 0.2\ H_s$ one would expect the velocity of the MD to increase; however it was found that this velocity actually decreased, and upon increasing H to $0.3\ H_s$, movement of MD reversed direction. At $H = 0.6\ H_s$ the rate of MD shifting in the opposite direction increased with the simultaneous process of nucleation of new magnetic dislocations. This nucleation occurs by means of the "splitting" of a wall into two domains between which there is established a boundary of opposite polarity. The rapid movement of dislocations at $H = 0.6\ H_s$ led to a new equilibrium state of normal domain structure without MD.

Comparison of domain structures showed that domain width D decreases as the magnitude of H increases. This is explained as the result of the decrease in equilibrium width of the domains. The mechanism of domain structure rearrangement is a result of the activation energies involved--E_1 is the energy expended in shifting a domain wall in the direction perpendicular to the domains, E_2 is the

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PALATNIK, L. S., and LUKASHENKO, L. I., Fizika Metallov i Metallovedeniye, Vol 29, No 4, Apr 70, pp 782-787

energy required to form a magnetic dislocation, and E_3 is the energy required to initiate MD movement. The levels of E_1, E_2, and E_3 probably depend on the frequency of the applied magnetic field.

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1/2 021 UNCLASSIFIED PROCESSING DATE--11[illegible]70

TITLE--MECHANISM OF FORMATION OF AXIAL SEGREGATION IN CONTINUOUSLY CAST KILLED STEEL -U-

AUTHOR--PALATNIK, L.S., AKHTYRSKIY, V.L.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, METAL. 1970, (1), 95-103

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--STEEL MICROSTRUCTURE, CHEMICAL REACTION MECHANISM, X RAY ANALYSIS, SULFUR, PHOSPHORUS, MANGANESE STEEL, ISOTOPE, KILLED STEEL, DENDRITE GROWTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0541 STEP NO--UR/0370/70/000/001/0095/0103

CIRC ACCESSION NO--AP0105526

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70
CIRC ACCESSION NO--AP0105526
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AXIAL SEGREGATION IN CONTINUOUSLY CAST KILLED STEEL WAS STUDIED BY MEANS OF X RAY MICRO AND MACRODIAGRAMS GENERATED BY ADDED PRIME35 S AND PRIME32 P. THE FORMATION OF THE OBSD. FILAMENTARY, NEG., AND V SHAPED SEGREGATION REGIONS IS EXPLAINED BY THE FORMATION OF DENDRITES IN THE AXIAL ZONE. DENDRITE GROWTH IS FAVORED BY INCREASING AMTS. OF IMPURITIES AND DIMINISHED BY LOWERING THE RATIO MN:S.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--MECHANISM OF FORMATION OF AXIAL SEGREGATION IN CONTINUOUSLY CAST KILLED STEEL -U-

AUTHOR--PALATNIK, L.S., AKHTYRSKIY, V.L.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, METAL. 1970, (1), 95-103

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--STEEL MICROSTRUCTURE, CHEMICAL REACTION MECHANISM, X RAY ANALYSIS, SULFUR, PHOSPHORUS, MANGANESE STEEL, ISOTOPE, KILLED STEEL, DENDRITE GROWTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0541 STEP NO--UR/0370/70/000/001/0095/0103

CIRC ACCESSION NO--AP0105526

UNCLASSIFIED

2/2 021 UNCLASSIFIED

CIRC ACCESSION NO--AP0105526 PROCESSING DATE--11SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AXIAL SEGREGATION IN CONTINUOUSLY CAST KILLED STEEL WAS STUDIED BY MEANS OF X RAY MICRO AND MACRODIAGRAMS GENERATED BY ADDED PRIME35 S AND PRIME32 P. THE FORMATION OF THE OBSD. FILAMENTARY, NEG., AND V SHAPED SEGREGATION REGIONS IS EXPLAINED BY THE FORMATION OF DENDRITES IN THE AXIAL ZONE. DENDRITE GROWTH IS FAVORED BY INCREASING AMTS. OF IMPURITIES AND DIMINISHED BY LOWERING THE RATIO MN:S.

UNCLASSIFIED

USSR

UDC: 546.815'22:539.238

PALATNIK, L. S., SOROKIN, V. K., and ZOZULYA, L. P., Khar'kov Polytechnic Institute Imeni V. I. Lenin

"Regularities in the Growth of Thin Single-Crystal Lead Chalcogenide Films"

Moscow, Neorganicheskiye Materialy, Vol 6, No 2, Feb 70, pp 224-229

Abstract: This paper presents the results of a systematic study of epitaxial growth at initial stages in PbS films. A new method has been devised for producing a compact epitaxial film. With this method, a bidisperse structure emerges in the initial stages of growth. The structure consists of crystalline particles with balanced faceting and much finer islets with rougher edges. The shape of the condensate particles is determined by the correlation between faceting and growth rates in the substrate plane. The hypothesis on the formation of the bidisperse structure is based on a higher growth rate of islets with rough faceting and a lower growth rate of particles with balanced faceting. The formation of the compact epitaxial film from the bidisperse structure is followed by elastic deformations which may considerably increase the dispersal of current carriers in the semiconductor single-crystal film. Figures in the original article illustrate the epitaxial growth of PbSe on NaCl at 160 and 180°C and given rates, formation of a bidisperse structure in PbSe films on NaCl at 200°C and given rates, epitaxial growth of PbSe on KCl at 200°C and given rates and a defective structure of an epitaxial PbSe film on NaCl.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202320011-8"

USSR

UDC: 546.28'21:539.238

PALATNIK, L. S., TARTAKOVSKAYA, I. KH., and KOTEL'NIKOVA, S. O., Khar'kov Polytechnic Institute imeni V. I. Lenin

"Dielectric Properties of Thin Silicon Oxide Films as a Function of Condensation Conditions"

Moscow, Neorganicheskiye Materialy, Vol 6, No 2, Feb 70, pp 219-223

Abstract: The low reproducibility of the dielectric properties of condensed SiO films is a factor which has prompted the study of the effects of preparation conditions on structure and dielectric properties. The study covers the effects of condensation rate and dielectric layer thickness on the capacitance, dielectric constant, dielectric losses and breakdown voltage of SiO-base film capacitors as well as the correlation of these properties with the structural characteristics of SiO films. Changes in capacitance with natural and artificial aging were also studied. Low oxidation rates cause SiO partial oxidation. As condensation rates are increased, the films become inhomogeneous in structure. Microdiffraction analysis confirmed the presence, in SiO films, of two highly-disperse phases--crystalline or amorphous silicon and amorphous SiO_2. Tables in

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USSR

Thin Films

UDC 546.48'22:539.238

PALATNIK, L. S., NABOKA, M. N., and MARINCHEVA, V. YE., Khar'kov Polytechnical Institute imeni V. I. Lenin

"Influence of Production Conditions on Crystalline Quality of CdS Films"

Moscow, Neorganicheskiye Materialy, Vol 6, No 8, Aug 70, pp 1526-1527

Abstract: Electronography, X-ray diffractometry, and optical spectrometry are used to study the influence of the molecular composition of the gaseous m_i phase, rate of condensation ω, substrate temperature t_{sub}, and condensation angle ϕ on the structure and optical properties of thin condensed CdS layers. The results indicate that of all the parameters, ω, m_i, and ϕ, the rate of precipitation has the greatest influence on the crystalline quality during formation of condensed CdS layers, controlling the content of excess cadmium atoms or sulfur vacancies.

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USSR

PALATNIK, L. S., et al., Neorganicheskiye Materialy, Vol 6, No 2, Feb 70, pp 219-223

the original article show the specific capacitance of film capacitors as a function of the SiO layer thickness, the dielectric constant as a function of SiO condensation rate, and the optical density of SiO films as a function of thickness at specific condensation rates.

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USSR

IL'INSKIY, A. I., PALATNIK, L. S., and SAPELKIN, N. P. UDC: None

"Creep and Durability of Highly Stable Copper Films"

Leningrad, Fizika tverdogo tela, No 11, 1973, pp 3196-3201

Abstract: The equipment and methods of an experimental inquiry into the creep and durability of copper films, obtained by condensation in a vacuum, are considered in this paper. The films tested were 25±5 μ thick, and were prepared in a vacuum of about $5 \cdot 10^{-5}$ mm Hg by the method of crucible vaporization of copper with a purity of 99.7%. For these experiments, special apparatus was used; a diagram of this equipment is given. Curves for the durability of the films as a function of the temperature are given along with a table of the effect of temperatures of 100, 20, 0, and -196° C on the durability of films under a stress of 80 kg/mm^2. A second table shows the effect of the stress on the rate of creep. The effects of annealing at temperatures of 250° C are also considered. It was found that the purity of the films markedly affects the creep and durability characteristics. The authors thank V. I. Betekhtin for his advice.

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USSR

UDC 539.216.2:538.221

PALATNIK, L. S., LUKASHENKO, L. I., ZOLOTNITSKIY, YU. V., and MOROZOVA, N. I.,
Kharkov Polytechnic Institute imeni V.I. Lenin

"Domain Structure of Permalloy Films With Perpendicular Anisotropy"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 35, No 5, 1973, pp 941-946

Abstract: Using the powder pattern on two opposite sides of permalloy films, the volumetric distribution model of domain boundaries was derived, according to which the domains form plane-parallel layers at some distance from the permalloy film surface (thickness of films was 100 μm). Domains of the reverse magnetization in a shape of cones were visible inside the principal domains, immediately below the film surface. They were (0.15-0.20) h high, with a base diameter equal to approximately one half of the width of a principal domain. Rows of the conical domains at two opposite sides of a film were shifted by one half of the period with respect to each other. This model agrees in principle with the one suggested before by the authors. However, domains of closure were not detected in the film layer next to the surface, and no domains were found with a gradually decreasing diameter. Very often wedges were visible within the cross-section of a film. Walls of the principal domains deviated from normal in the next-to-surface layer at a depth of the

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USSR

PALATNIK, L. S., et al., Fizika Metallov i Metallovedeniye, Vol 35, No 5, 1973, pp 941-946

conical domains. These walls were not revealed on the film surface by the powder pattern method and their distribution was not established. The perpendicular anisotropy constant of Permalloy films was considerably lower than that of cobalt and other uniaxial single crystals.

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USSR

Powder Metallurgy

UDC 621.762:669.18.95

PALATNIK, L. S., KAGAN, YA. I., SHILOV, I. F., BELYAYEV, YU. I., BOGDANOVA, A. F., KOBYLEV, P. P., KOLESNIK, B. I., and KUDINOV, D. D., Khar'kov Polytechnic Institute imeni V. I. Lenin

"On the Micro- and Macroheterogeneity of the SAS-1 Alloy"

Kiev, Poroshkovaya Metallurgiya, No 4, Apr 73, pp 22-28

Abstract: A study was made of the physical and chemical heterogeneity of the SAS-1 aluminum sintered alloy. The luminescence method of flaw detection using metallography was employed in the investigation of the physical heterogeneity of the alloy. The nature, dimensions and statistical distribution of pores appearing in the alloy in the process of its production and subsequent treatment were determined. The parameters of the luminisescence method were corrected for the purpose of obtaining maximum sensitivity during the investigation of alloy microporosity. It was shown that with selected optimalcoconditions local pores with dimensions 10 x 15 x 25 μ m can be reliably detected. The problems of the appearance of chemical heterogeneity of the alloy in micro- and macrovolumes were considered. Assumptions are advanced whose realization will result in a decreased number of macro- and micro-flaws in the SAS-1 alloy.

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1/3 030 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--FORMATION OF THE STRUCTURE OF LEAD CHALCOGENIDE EPITAXIAL FILMS IN MICA -U-

AUTHOR-(05)-KOSEVICH, V.M., PALATNIK, L.S., ZOZULYA, L.P., ZOZULYA, L.V., SORCKIN, V.K.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(5), 1363-73

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--MICA, EPITAXIAL GROWTH, CRYSTALLIZATION, CRYSTAL ORIENTATION, ELECTRON MICROSCOPY, LEAD COMPOUND, TELLURIDE, SELENIDE, NUCLEATION, POLYCRYSTALLINE FILM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0856 STEP NO--UR/0181/70/012/005/1363/1373

CIRC ACCESSION NO--AP0131445

UNCLASSIFIED

2/3 030 UNCLASSIFIED

CIRC ACCESSION NO--AP0131445 PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY THE TRANSMISSION ELECTRON MICROSCOPY METHOD ORIENTATION, TYPE OF GROWTH, AND AGGREGATION OF ISOLATED PARTICLES AS WELL AS THE DEFFECT STRUCTURE WERE STUDIED OF CONTINUOUS EPITAXIAL FILMS OF PBTE AND PBSE ON MICA. WHEN THE SUBSTRATE IS AT 150-400DEGREES THE PBSE FILMS NUCLEATE ON MICA CRYSTALS IN 2 ORIENTATIONS: (111) (110) AND (001) (110) (001) (010) OF MICA. IN PBTE FILMS ORIENTATION (001) (110) APPEARS ONLY AT THE TEMP. OF T SUBP GREATER THAN 280DEGREES. PARTICLES WITH ORIENTATION (111) ACQUIRE GOOD FACES STARTING WITH THE EARLIEST STAGES OF CONDENSATION AND INCREASE PRIMARILY UPWARD. PARTICLES WITH THE ORIENTATION (001) ARE PLANE, THIN, AND POSSESS AT THE INITIAL STAGES OF CONDENSATION ROUGH CONTOURS AND A LARGE NO. OF INTERNAL VOIDS. JOINING OF THESE PARTICLES WITH THE PLANES (001) WITH THE PLANE OF CLEAVAGE OF MICA (001) TAKES PLACE BY MEANS OF DISCONFORMITY DISLOCATIONS. IN PBSE AND PBTE ON MICA VARIOUS CASES ARE POSSIBLE OF AGGREGATION OF ISOLATED PARTICLES DEPENDING ON THEIR SHAPE AND LOCATION RELATIVE TO THE DIRECTION (010) OF MICA. AGGREGATION TAKES PLACE WITH THE FORMATION OF PORES ON THE CONTACT BOUNDARY. PORES ARE LOCATED AT THOSE POINTS OF THE DISTORTED LATTICE AT WHICH, ON FURTHER CONDENSATION, DISLOCATIONS APPEAR. THE SLOWING DOWN OF AGGREGATION WAS OBSERVED BY THE BOUNDARIES FORMED WHEN DISORIENTED EPITAXIAL PARTICLES JOIN. THE MAIN FORM OF THE DEFECTS IN THE STRUCTURE OF CONTINOUS FILMS OF PBSE AND PBTE ON MICA ARE 2 DIMENSIONAL DEFECTS OF THE TYPE OF TWINNING BOUNDARIES (112) NORMAL TO THE PLANE OF THE FILM.

UNCLASSIFIED

3/3 030 UNCLASSIFIED

CIRC ACCESSION NO--AP0131445 PROCESSING DATE--20NOV70

ABSTRACT/EXTRACT--DURING RECRYSTN. A TRANSITION TAKES PLACE OF THESE BOUNDARIES INTO SLOPING DISTORTIONS OF THE BOUNDARY OF CYLINDRICAL SHAPE OF (100) TYPE.

FACILITY: KHARKOV, POLITEKH. INST. IM. LENINA, KHARKOV, USSR.

UNCLASSIFIED

Beryllium

USSR

UDC 669.725:539.374

FINKEL', V. A., PAPIROV, I. I., and PALATNIK, M. I., Physicochemical Institute of the Academy of Sciences, Ukrainian SSR

"X-Ray Study of the Plastic Deformation of Beryllium Single Crystals"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 32, No 2, Aug 71, pp 377-384

Abstract: Changes of the substructure and periods of the crystal lattice by deformations of beryllium single crystals at the expense of basal plane sliding were experimentally investigated. The investigation results discussed include differences in the behavior of single crystals under similar deformation conditions, development of new intensity peaks at the beginning of deformation, and vibrations of individual fragments in the course of deformation. It was found that the change of the substructure by deformation depends on the quantity of fragments and their integral disorientation. New fragments develop, previous fragments combine, and turns and vibrations of fragments take place during deformation. The angular distribution of fragments and their density changes with increasing pressure were determined. The dependence was established of periods of the crystalline lattice on the compression stress of beryllium single crystals with two orientations. The periods of the crystalline lattice were found to be susceptible to plastic deformation. Seven illustr., ten biblio. refs.

1/1

USSR

KAUFMAN, M.S., PALATOV, K.I.

UDC 621.385(075.8)

"Electron Devices. 3rd Edition, Revised. School Equipment For Technicums"

Elektronnyye pribory. Izd. 3-ye, pererab. Uchebn. posobiye dlya tekhnikumov (or English above), Moscow, "Energiya," 1970, 480 pp, ill. 1 r. 32 k (from RZh--Elektronika i yeye primeneniye, No 10, October 1970, Abstract No 10A5K)

Translation: The book considers the theory of operation, construction, and basic computations of electrovacuum devices, and also the connections between the parameters and construction of the devices and the most important circuits and conditions for their use. The book is school equipment for the course "Electrovacuum Devices And Principles Of Their Design" for students of technicums. It can also be useful for students for appropriate special higher educational institutions. Annotation.

1/1

USSR

UDC: 519.1

PALAUS, A. Ya., SHMAYLO, N. V.

"Synthesis of a Check Test for Automata With Memory"

Kiev, Probl. nadezhnosti sistem upr.--sbornik (Problems of Reliability of Control Systems--collection of works), "Nauk. dumka", 1973, pp 118-123 (from RZh-Matematika, No 9, Sep 73, abstract No 9V463 from the introduction)

Translation: A regular method is proposed for constructing a test for an automaton given by a nonredundant, multiple-output logic circuit with feedbacks when the combination part of the single-output subcircuits contains no branchings. The test is intended for detecting isolated and multiple malfunctions equivalent to constants at the inputs or outputs of the logic elements.

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USSR

PALAUS, A YA and SHMAYLO, N. V.

"Synthesis of a Checking Test for Automata with Memory"

Probl. Nadezhnosti Sistem Upr. [Problems of the Reliability of Control Systems -- Collection of Works], Kiev, Nauk. Dumka Press, 1973, pp 118-123 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V463)

Translation: A regular method is suggested for construction of a test for an automaton, fixed by a nonredundant multiple-output logic system with feedback, the combination portion of the single-output subcircuits of which contains no branchings. The test is designed for detection of individual and multiple defects equivalent to constants at the inputs or outputs of the logic elements. From the introduction

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USSR

UDC 611.146.6-02:612.014.47]-092.9

PALAZHCHENKO, E. F., Department of Normal Anatomy, 1st Leningrad Medical Institute imeni I. P. Pavlov

"The Effect of Gravitational Stress and Hypokinesia on the Blood Vessels of the Testicle"

Leningrad, Arkhiv Anatomii, Gistologii i Embiologii, Vol 64, No 5, 1973; pp 57-63

Abstract: The purpose of the investigation was to study the effects of gravitational stresses, hypokinesia, and the two in combination on the structure of the blood vessels of the male sexual gland. After preliminary study of normal structure on 20 adult male rabbits, 110 rabbits weighing 2,400-2,800 grams were used in the three series of experiments. 12.5 minutes on a 1-meter centrifuge (stress - 9 units) was used for the single maximum endurable stress in the cranio-caudal direction. In the second series, 40 rabbits were kept in tight cages for 1, 2, 4, 6, and 8 weeks. For the third series the animals were kept in tight cages for the above-mentioned periods and then subjected to the stress (15 of 40 died on the centrifuge). The methods of roentgenography and clearing the section were used. The stresses caused dilation, greater sinuosity, uneven contours, and some ruptures and extravasation. Most of the capillaries were dilated, but some

USSR

PALAZHCHENKO, E. F., Arkhiv Anatomii, Gistologii i Embiologii, Vol 64, No 5, 1973, pp 57-63

were constricted. Progressive atrophy of the organ was observed with hypokinesia. Early in the tests the arteries constricted, then in the 4th week they began to dilate; the veins were dilated throughout. Sinuosity, uneven contours, bulb-shaped protrusions, and constrictions increased. The number of injected vessels decreased. At later times there was atrophy of the spermatogenic epithelium and of the muscular coat of the vessels. Combined stress and hypokinesia led to more pronounced changes such as deformation of the vessels and of the wall structure.

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USSR

UDC 621.385.032.21 (088.8)

BESPALOV, K. I., PALICHEVSKIY, B. A.

"Study of the Quality of Adhesion of Oxide Coating to a Cathode Base"

Elektron.tekhnika. Nauch.-tekhn.sb. Tekhnol. i organiz. proiz-va (Electronics Technology. Scientific-Technical Collection. Technology and Organization of Production), 1971, No 5(45), pp 121-126 (from RZh:Elektronika i yeye primeneniye, No 2, Feb 72, Abstract No 2A106)

Translation: The quality of adhesion of a coating to a cathode base /kern/ was studied with the use of various adhesive compositions and a choice of the optimum composition of the adhesive and optimum conditions of sticking. The results are presented of a study of the dependence of the magnitude of the bonding strength on the content in the adhesive composition of dioctyl phthalate (DOP) or polymethyl methacrylate (PM), and also the effect of the stocking conditions on the quality of production of printed cathodes. The magnitude of the initial bonding strength is increased in direct proportion to the increase of the quantity of

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USSR

BESPALOV, K. I., et al, Elektron.tekhnika. Nauch-tekhn.sb. Tekhnol. i organiz. proiz-va, 1971, No 5(45), pp 121-126

PM in the adhesive composition. The magnitude of the critical bonding strength is increased with an increase of the content of DOP or PM up to a fixed limit, after which a further increase of the DOP or PM content in the adhesive composition leads to an abrupt decrease of the magnitude of the critical bonding strength and the reliability of the adhesion. Optimum adhesive compositions in acetone are 1/5 DOP and 1/10 PM. A decrease of the bonding, beginning with the fixed composition of PM in the adhesive composition, can be explained by the increase of the thickness of the anticontact film of PM between the coating and the cathode base. Similarly, a change of the magnitude of the bonding strength is observed for an adhesive composition with DOP. Use of close pressing /podpressovka/ with compressed air decreases the thickness of the anticontact film. For the adhesive compositions selected the optimum pressure is 3 atm. 4 references. AF

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1/2 007 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--COMPLEXING OF IRON,III, WITH PHENOL -U-

AUTHOR-(05)-NIKOLSKIY, B.P., PALCHEVSKIY, V.V., CHEGODAYEVA, A.D., YAKUBOV, KH.M., SAMBUR, T.V.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 192(1), 102-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--IRON COMPOUND, COMPLEX COMPOUND, PHENOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1204 STEP NO--UR/0020/70/192/001/0102/0104

CIRC ACCESSION NO--AT0134878

UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0134878

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPLEXING OF FE(III) WITH PHOH AND THE POSSIBLE FORMATION OF THE (FEOPH) PRIME2POSITIVE COMPLEX WAS STUDIED BY MEASURING THE CHANGE IN THE OXIDN. POTENTIAL OF THE FE(III)-FE(II) SYSTEM (USING FE(CLO SUB4) SUB3 AND FE(CLO SUB4) SUB2 IN NACLO SUB4 SOLN.) AT 25DEGREES AS A FUNCTION OF PH, THE ADDUCT CONCN., AND THE CONCNS. OF THE OXIDIZED AND REDUCED FE. THE PH DEPENDENCE CURVES OF THE OXION. POTENTIAL IN THE PRESENCE AND IN THE ABSENCE OF PHOH INDICATE THAT PHOH HAS NO EFFECT ON THE HYDROLYSIS OF FE(III). THE BLUE COLOR WHICH APPEARS AT PH GREATER THAN OR EQUAL TO 0.9 CHANGES TO YELLOW AT PH GREATER THAN 2. ADDNL. SPECTROPHOTOMETRIC STUDY OF THE FE(III) PHENOL SYSTEM AT 550 NM REVEALED THAT THE ABSORBANCE OF THE SYSTEM INCREASES WITH INCREASING PHOH CONCN. AND WITH PH OF THE SYSTEM. THE EXPTL. DATA SUGGEST THAT THE COMPLEX RESPONSIBLE FOR THE BLUE COLOR IS FORMED BY THE ADDN. OF PHOH TO THE PRODUCTS OF THE PRIMARY HYDROLYSIS OF FE(III) COMPDS.: (FE (H SUB2 O) SUB6) PRIME3POSITIVE FORMS AND IS FORMED FROM (FE(OH)(H SUB2 O) SUB5)PRIME2POSITIVE PLUS H PRIMEPOSITIVE, (FE(OH)(H SUB2 O) SUB5) PRIME2POSITIVE PLUS PHOH FORMS AND IS FORMED FROM FE(OH)(H SUB2 O) SUB4 PHOH) PRIME2POSITIVE. FACILITY: LENINGRAD. GOS. UNIV. IM. ZHDANOVA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 036 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--THERMODYNAMIC AND SPECTRAL PROPERTIES OF P-NITROPHENOL IN AQUEOUS ELECTROLYTE SOLUTIONS -U-
AUTHOR-(04)-NIKOLSKIY, B.P., YUDOVICH, YE.YE., PALCHEVSKIY, V.V., SPEVAK, V.N.
COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 709-11

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMODYNAMIC CHARACTERISTIC, SPECTRUM, PHENOL, ORGANIC NITRO COMPOUND, ELECTROLYTE, ENTHALPY, ENTROPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0723 STEP NO--UR/0076/70/044/003/0709/0711

CIRC ACCESSION NO--AP0119630
UNCLASSIFIED

2/2 036 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119630

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PARTIAL ENTHALPY AND ENTROPY OF DISSOLN. OF P-O SUB2 NC SUB6 H SUB4 OH DECREASED WITH INCREASING CONCN. OF ELECTROLYTE. THE DECREASE OF THE ENDOTHERMIC CONTRIBUTION TO DELTAH DEPENDED ON THE ELECTROLYTE, KBR GREATER THAN KCL GREATER THAN NACL GREATER THAN LICL. THUS, THE DECREASE WAS LARGER THE LESS HYDRATED THE IONS OF THE ELECTROLYTES. THE ENERGY OF THE 1ST ELECTRONIC TRANSITION DECREASED WITH INCREASING CONCN. OF ELECTROLYTE AND THE EFFECT OF CREASED WITH INCREASING CONCN. OF ELECTROLYTE AND THE EFFECT OF ELECTROLYTES ON THE ENERGY VARIED IN THE ABOVE ORDER. FACILITY: LENINGRAD. GOS. UNIV. IM. ZHDANOVA, LENINGRAD, USSR.

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